Job Description

Job Title: R&D Computer Science (Experienced)
Job ID: 664663
Location: Albuquerque, NM

Full/Part Time: Full-Time
Regular/Temporary: Regular

What Your Job Will Be Like

Are you passionate about your work and dream of utilizing state-of-the-art facilities to explore solutions? Do you want to join a dynamic team that solves significant issues for our nation’s security?

We are seeking a Computer Scientist to join the Computational Simulation group as a member of the Sierra Tool Kit (STK) team. Our STK team provides common libraries, algorithms, and utilities for the DOE-ASC integrated codes. This position offers many opportunities to impact integrated codes in a wide variety of physics applications: Solid Mechanics, Structural Dynamics, Thermal Fluids, Fluid-Structure Interactions, and Coupled Thermal-Mechanical.

Qualifications We Require

- PhD degree in Computer Science/Engineering/Math discipline
- Experience with modern C++ programming within a UNIX/Linux environment
- Experience with computer software engineering concepts
- Experience with software quality and testing practices
- Experience with high performance and parallel computation concepts (e.g., distributed and shared memory, multi-threading, OpenMP, MPI+X+Y, CUDA)
- Excellent communication skills as evidenced by a history of publication of results in peer-reviewed journals and external presentations at appropriate scientific conferences
- Experience teaming with other software teams and users of software
- Ability to obtain and maintain a DOE Q clearance

Qualifications We Desire

- Experience developing in large scale software applications
- Experience with high-performance parallel computing, MPI, threads, GPUs (Kokkos would be great), and agile software development experience
- Willingness to learn agile development practices such as test driven development and pair programming
- Depth and breadth in several aspects of computational mechanics (e.g., equations solvers, element formulations
- Multi-scale approaches, data structures, coupled physics)
- Strong background in applied mathematics, physics, computer science and software development
- Ability to excel within an agile software development team room environment
- Experience with Kokkos

About Our Team

The Computational Thermal and Fluid Mechanics Department develops aerodynamics, aerothermodynamics, compressible fluid mechanics, and flight dynamics simulation software to execute on a variety of high performance computing platforms. These codes will be used to perform highly detailed simulations for use in the design, development and qualification of nuclear weapons. The code development efforts are focused on providing tools for analysts at Sandia and partner institutions. The code areas are primarily in thermal analysis and compressible flow (subsonic, transonic and hypersonic), and shock physics. Our broader code development team also develops simulation capabilities for modeling shock physics, solid mechanics, structural dynamics, participating media radiation, fire environments, and incompressible fluid flow (with capillary hydrodynamics, drying, porous flow – multi-physics). Code teams are typically five to ten people, and strong interaction with the analysis teams is an important part of the code development process.

About Sandia

Sandia National Laboratories is the nation’s premier science and engineering lab for national security and technology innovation, with teams of specialists focused on cutting-edge work in a broad array of areas. Some of the main reasons we love our jobs:

- Challenging work with amazing impact that contributes to security, peace, and freedom worldwide
- Extraordinary co-workers
- Some of the best tools, equipment, and research facilities in the world
- Career advancement and enrichment opportunities
- Flexible schedules, generous vacations, strong medical and other benefits, competitive 401k, learning opportunities, relocation assistance and amenities aimed at creating a solid work/life balance*


*These benefits vary by job classification.

Security Clearance

Position requires a Department of Energy (DOE) Q-level security clearance.

Sandia is required by DOE to conduct a pre-employment drug test and background review that includes checks of personal references, credit, law enforcement records, and employment/education verifications. Applicants for employment must be able to obtain and maintain a DOE Q-level security clearance, which requires U.S. citizenship. If you hold more than one citizenship (i.e., of the U.S. and another country), your ability to obtain a security clearance may be impacted.

Applicants offered employment with Sandia are subject to a federal background investigation to meet the requirements for access to classified information or matter if the duties of the position require a DOE security clearance. Substance abuse or illegal drug use, falsification of information, criminal activity, serious misconduct or other indicators of untrustworthiness can cause a clearance to be denied or terminated by DOE, resulting in the inability to perform the duties assigned and subsequent termination of employment.

https://hrss.sandia.gov/psc/pspr1/EMPLOYEE/HRMS/c/HRS_HRPM.HRS_JOB_OPENIN...
EEO

All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, or veteran status.